

Remarks

According to the Office Action, claims 1-20 are pending in the application. Claims 1-6, 8-14 and 18-20 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,273,318 of Nakayama et al. ("Nakayama '318"). Claims 15-17 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakayama '318 in view of U.S. Patent No. 5,366,247 of Fischer ("Fischer '247"). Claim 7 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakayama '318 in view of U.S. Patent No. 5,145,617 of Hermanson et al. ("Hermanson '617"). In addition, the drawings have been objected to based upon informalities.

On September 15, 2004, Examiner James Allen Shriver, II and counsel for Applicant conducted a telephone interview, the substance of which is summarized in Applicant's "Written Statement Regarding Telephone Interview Pursuant To 37 C.F.R. § 1.133(b)" which was filed on September 21, 2004. As described more fully below, the amendments discussed during the telephone interview and agreed to by Examiner Shriver have been incorporated into this Amendment/Response to Office Action.

More particularly, Applicant has now amended the claims of his application to address the rejections cited in the Office Action. Indeed, Applicant has amended claim 1, and by dependency therefrom claims 2-18, and claim 19, and by dependency therefrom claim 20, as described in more detail below. In addition, Applicant has canceled claim 4. Applicant has also addressed the objections to Figure 5 based upon the informalities cited in the Office Action. Finally, Applicant offers the following remarks to address the rejections of his claims and the

objections to his drawings. Applicant respectfully requests reconsideration of the application in view of such remarks and amendments.

I. THE DRAWINGS, AS AMENDED, ARE NOT OBJECTIONABLE.

According to the Office Action, Figure 5 is objectionable because reference number "222" is shown representing the upper side of a horizontal member and reference number "224" is shown representing the lower side. Applicant respectfully submits that reference number "222" in Figure 5 is, in fact, shown representing the lower side of horizontal strand "221" and reference number "224" is, in fact, shown representing the upper side of horizontal strand "221."

More particularly, according to the original Specification at page 17, lines 14-22, the horizontal strands of the mud flap are designated by reference number "221". The plurality of openings between the horizontal strands are designated by reference number "220". In addition, the original Specification states that lower side "222" of each horizontal strand "221" shown in Figure 5 is disposed rearwardly and downwardly. *Ibid.* Referring now to Figure 5, reference number "222" is shown representing the rearwardly and downwardly lower side of horizontal strand "221". Reference number "224" is shown representing the upper side of horizontal strand "221". By contrast, the openings between the horizontal strands are designated by reference number "220".

Consequently, Applicant respectfully submits that reference number "222" in Figure 5 is shown representing the lower side of horizontal strand "221", and reference number "224" in Figure 5 is shown representing the upper side of horizontal strand "221." Accordingly, Applicant submits that the objections to Figure 5 should be withdrawn.

II. DIMENSIONAL AND RANGE LIMITATIONS RECITED IN CLAIMS MAY PATENTABLY DISTINGUISH A CLAIMED INVENTION FROM THE PRIOR ART UNDER THE LAW OF THE FEDERAL CIRCUIT.

According to the Office Action, the dimensional and range limitations recited in the claims of the pending application are obvious in view of the applied prior art. More particularly, the Office Action cites the decision of *In re Rose*, 105 USPQ 237, 220 F.2d 459 (CCPA 1955) in support of the proposition that a change in size is generally recognized as being within the level of ordinary skill in the art.

As counsel for Applicant and Examiner Shriver discussed during their September 15, 2004 telephone interview, the *In re Rose* decision applies the old "invention" standard, not the current "obviousness" standard of patentability. *Id.* at p. 463. Further, the *In re Rose* decision has never been cited as precedential authority by the U.S. Court of Appeals for the Federal Circuit.

Accordingly, as counsel for Applicant explained, the precedential authority of the *In re Rose* decision must be weighed in view of the following more recent decisions of the Federal Circuit.

In 1984, the Federal Circuit addressed the issue of the obviousness of variations in dimensional limitations recited in the claims of a patent application. *Gardner v. TEC Sys., Inc.*, 725 F.2d 1338 (Fed. Cir. 1984). In *Gardner*, the court compared the claims of a patent directed to a device for drying ink to several prior art patents. The patent holder of the patent on appeal argued that several dimensional limitations distinguished its patent from the prior art. The Federal Circuit disagreed, holding that the patent on appeal was obvious in view of the prior art patents, notwithstanding the different dimensional limitations. However, the court's reasoning is instructive for purposes of the instant application.

More particularly, the *Gardner* trial court found that the different dimensional limitations relied upon by the patent holder of the patent on appeal were "artificial dimensional limitations that add nothing to the claims, that are of no constructive significance, and are essentially meaningless. The evidence at trial never showed that departing from these formulae would necessarily cause an air bar to function or fail. In other words, these claim [sic, claim limitations] are irrelevant." *Id.* at 1346. The trial court further stated that the dimensional limitations of the patent on appeal "were incantations that may have superficially made the application sound like something unique and inventive but had no real function . . . [and] did not produce any discernible result." *Ibid.* Thus, the *Gardner* trial court concluded by stating, "Surely, the patent law does not attach uniqueness to dimensional claims that have no significance in the operation of the claimed invention." *Ibid.*

In reviewing the record of the trial court, the Federal Circuit stated that "the trial court was completely convinced that the dimensional limitations of claim 1 are no more than 'window dressing'". *Ibid.* The Federal Circuit further stated that "the trial court was unquestionably of the firm conviction that the proofs adduced at trial showed clearly and convincingly that the dimensional limitations of claim 1 failed to particularly point out a feature of an air bar which performed any differently from prior art bars, in other words, that those limitations are a verbal difference only." *Ibid.* As a result, the Federal Circuit declared that the "trial court would not have been clearly erroneous in concluding that the dimensional limitations of the claims of the patent on appeal did not specify a device which performed and operated any differently from the prior art. Its decision therefore stands." *Id.* at 1349.

Unlike the *In re Rose* decision, the Federal Court's decision in *Gardner v. TEC Sys., Inc.* has been favorably cited by the Federal Circuit thirty-five (35) times.

In 1990, the Federal Circuit addressed the issue of the obviousness of variations in range limitations recited in the claims of a patent application. *See In re Woodruff*, 16 USPQ 1934, 919 F.2d 1575 (Fed. Cir. 1990). In *Woodruff*, the court compared a patent application directed to a method for modifying a storage atmosphere for fruits and vegetables that reduced fungal growth to a prior art patent directed to a storage method that inhibited deterioration generally. The prior art patent was substantially identical to the patent application, with the exception of carbon monoxide concentrations. The patented method recited a carbon monoxide concentration of about 1%-5%. The patent application required a carbon monoxide concentration of more than 5%.

While the *In re Woodruff* court affirmed the trial court's decision that the claims of the patent application were not allowable, the court explained that the claims were not allowable because the applicant had made no showing that (1) the different range was important to the claimed invention, (2) the different range caused the claimed invention to perform or operate differently from the prior art, or (3) the different range caused the claimed invention to achieve different results from the prior art. *Id.* at p. 1578. According to the *Woodruff* court, the law is replete with cases in which the differences between the claimed invention and the prior art is some range or other variable within the claims. *Ibid.* Further, these cases have consistently held that in such a

situation, the applicant must show that the particular range is important to the performance, the operation or the results achieved by the claimed invention relative to the prior art. *Ibid.*

Unlike the *In re Rose* decision, the *In re Woodruff* decision has been favorably cited by the Federal Circuit no less than thirty-six (36) times.

In 1993, the Federal Circuit again addressed the issue of the obviousness of dimensional limitations in *In re Gentile*, Civ. App. No. 93-1086 (Fed. Cir. 1993)(unpublished). In *Gentile*, the invention related to a tool for use on objects in hard-to-reach locations, such as pliers with elongated jaw portions. The applicant argued that the prior art did not show the specific ratio of the jaw member length to the diameter, which the applicant argued permitted the invention to grasp objects in inaccessible locations. The Federal Circuit disagreed with the applicant because the application contained no indication of the importance of this feature. More particularly, the Federal Circuit noted:

With respect to the limitation of the ratio of the jaw member length to the diameter, which is present in each claim at issue, the Board found that the specification contained no disclosure of either the critical nature of the claimed dimensions or any unexpected results arising therefrom, and that as such the ratio was arbitrary and therefore obvious. We agree that such unsupported limitations cannot be a basis for patentability, since where patentability is said to be based upon particular chosen dimensions or upon another variable recited in a claim, the applicant must show that the chosen dimensions are critical. *Id.*, slip. op. at 5 (citing *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ 2d 1934, 1936 (Fed. Cir. 1990)).

Based upon the foregoing Federal Circuit decisions, the dimensional and range limitations recited by claims 1-20, as amended, are not obvious in view of the applied prior art, as discussed more fully below.

III. CLAIMS 1-6, 8-10, 12-14 AND 18-20, AS AMENDED, ARE NOT OBVIOUS IN VIEW OF NAKAYAMA.

Claims 1-6, 8-14 and 18-20 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakayama. As noted above, Applicant has amended original claims 1 and 19 by inserting into them the dimensional limitation recited in original claim 11. In addition, Applicant has canceled original claim 11.

According to the Office Action, Nakayama discloses a mud flap that is adapted to be attached to a vehicle behind or outside a wheel thereof. The Office Action further states that the mud flap comprises an integrally-formed, mesh panel having a front face, a top edge, a plurality of strands, and a plurality of openings defined by the plurality of strands. The Office Action continues stating that the openings in the integrally-formed mesh panel are adapted to permit air to flow therethrough and sized such that substantially all water and roadway debris encountered by the panel is deflected by the panel. Still further, the Office Action states that a means for attaching the panel to the vehicle is inherent for the proper operation of the mud flap. In addition, the Office Action states that Nakayama discloses a deflecting panel made from a polymeric material, a plurality of substantially parallel, horizontally- and vertically-disposed strands, and a plurality of vertical support members. Finally, the Office Action states that Nakayama inherently discloses a means for attaching the mud flap to a vehicle which is located near the top edge of the integrally-formed mesh panel.

By contrast, the Office Action acknowledges that Nakayama does not disclose a mud flap wherein the sum of the areas of the openings represents at least 75%-85% of the total surface area of the front face of the panel. The Office Action further acknowledges that the specification

of Nakayama states that the first embodiment of Nakayama is required to be approximately 50% open relative to the total surface area thereof. The Office Action then states that the embodiment shown in Figure 7 shows a percent for the openings greater than 50%. As counsel for Applicant discussed with Examiner Shriver during their September 15, 2004 telephone interview, the open areas illustrated by Figure 7 of Nakayama actually represent less than 50% of the total surface area of the panel. Further, during the September 15, 2004 telephone interview, counsel for Applicant referred Examiner Shriver to Figure 13 of Nakayama which represents the greatest percentage of open area of any of the panels illustrated in Nakayama. After measuring the relative open area of the panel shown in Figure 13 and the total area of the same panel, counsel for Applicant advised Examiner Shriver that the percentage of open area relative to total surface area is nearly exactly 50% and less than 51%. Consequently, Applicant respectfully submits that Nakayama does not disclose a mud flap comprising a plurality of openings, the total area of which represents greater than 51% of the total surface area of the panel.

Still referring to Nakayama, the Office Action states that it would have been an obvious matter of design choice to have the openings represent at least 75%-85% of the total surface area of the panel because such a modification would have involved a mere change in the size of the component. The Office Action cites the decision of *In re Rose*, 105 USPQ 237, 220 F.2d 459 (CCPA 1955) in support of the proposition that a change in size is generally recognized as being within the level of ordinary skill in the art. As discussed above in Section II., the current law of the Federal Circuit states that a dimensional or range limitation overcomes an obviousness rejection where (1) the limitation is described as important in the application, (2) the limitation

causes the claimed invention to perform or operate differently from the prior art, and/or (3) the limitation causes the claimed invention to achieve different results from the prior art.

Based upon the Federal Circuit decisions discussed in Section II., the dimensional and range limitations recited by claims 1-6, 8-10, 12-14 and 18-20, as amended, are not obvious under 35 U.S.C. § 103(a) in view of Nakayama. More particularly, the dimensional and range limitations of amended claims 1-6, 8-10, 12-14 and 18-20 which distinguish those claims from the mud flap of Nakayama are the following: (1) the plurality of openings having a minimum dimension of no more than 1/8 (0.125) inch, and (2) the sum of the areas of the plurality of openings representing at least 75% of the surface area of the front face of the panel. Nakayama does not teach either of these limitations. Further, the dimensional and range limitations recited by amended claims 1-6, 8-10, 12-14 and 18-20 are not obvious in view of Nakayama because (1) their importance is described in the specification of the application, (2) they cause the claimed invention to perform and operate differently from the mud flap of Nakayama, and (3) they cause the claimed invention to achieve different results from the mud flap of Nakayama.

First, the original Specification of the pending application expressly describes the importance of the dimensional and range limitations of the claimed invention. More particularly, the importance of the dimensional limitation of original claim 11 (*i.e.*, the minimum dimension of an opening is no more than 0.125 inches) and the range limitation of original claim 1 (*i.e.*, the openings represent at least 75% of the total surface area of the front face of the panel) is described throughout the Specification of the application. *See, e.g.*, Specification at page 5, lines 10-16; page 6, lines 21-22 to page 7, lines 1-2, 7-11, 15-16 and 23 to page 8, lines 1-4; page 10,

lines 9-10; page 11, lines 21-23 to page 12, lines 1-23 to page 13, lines 1-2; page 14, lines 10-11 and 16-20; and page 19, lines 9-23 to page 20, lines 1-20.

Second, the dimensional and range limitations of claims 1-6, 8-10, 12-14 and 18-20, as amended, cause the claimed invention to perform and operate differently from the mud flap of Nakayama. For example, the claimed invention permits air to flow nearly unimpeded through it as a result of the openings representing at least 75% of the total surface area of the front face of the panel. By contrast, the mud flap described by Nakayama is a mud flap through which no air may pass, impeded or otherwise, because the rear panel has no openings.

Third, the dimensional and range limitations of claims 1-6, 8-10, 12-14 and 18-20, as amended, cause the claimed invention to achieve different results from the applied prior art. For example, as a result of the range limitation (*i.e.*, the area of the openings representing at least 75% of the total surface area of the front face of the panel), the displacement of the mud flap of the claimed invention caused by air resistance is minimized. By contrast, the mud flap of Nakayama must be undesirably heavy in order to overcome significant displacement caused by air resistance during transport because no air is permitted to flow through the rear panel of the mud flap. The undesirable weight of the mud flap of Nakayama reduces fuel economy and payload capacity. Further, if the mud flap of Nakayama is not made undesirably heavy and it is instead permitted to be displaced by air resistance during transport, then the utility of the mud flap of Nakayama as a means for deflecting water and other roadway debris is undesirably reduced.

Accordingly, the dimensional and range limitations of amended claims 1-6, 8-10, 12-14 and 18-20 are not obvious in view of Nakayama, and the rejections under 35 U.S.C. § 103(a) of claims 1-6, 8-10, 12-14 and 18-20, as amended, should be withdrawn.

IV. CLAIMS 15-17, AS AMENDED, ARE NOT OBVIOUS UNDER 35 U.S.C. § 103(a) IN VIEW OF NAKAYAMA AND FISCHER.

According to the Office Action, claims 15-17 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakayama in view of Fischer. The Office Action correctly states that Nakayama does not disclose a mud flap including a plurality of horizontal support members adapted to provide support to the panel. The Office Action continues stating that Fischer discloses a mud flap including a plurality of horizontal support members adapted to provide support to the panel. Further, the Office Action states that it would have been obvious to a person of ordinary skill in the art to provide a plurality of horizontal support members on the panel disclosed in Nakayama in view of the teaching of Fischer. Still further, the Office Action states that neither Nakayama nor Fischer discloses horizontal support member that are space apart at least 5 and/or 10 inches from each other. According to the Office Action, it would have been an obvious matter of design choice to have the horizontal support members spaced apart either 5 or 10 inches because such a modification would have involved a mere change in the size of a component. In support of this conclusion, the Office Action again cites the decision in *In re Rose*.

For the same reasons discussed above in Section III. (which is incorporated herein by reference), Nakayama does not teach or suggest the dimensional or range limitations of claims 15-17, as amended. More particularly, Nakayama does not teach or suggest either (1) a plurality of

openings having a minimum dimension of no more than 1/8 (0.125) inch, or (2) the sum of the areas of the plurality of openings representing at least 75% of the surface area of the front face of the panel. Similarly, Fischer does not teach or suggest the dimensional or range limitations of amended claims 15-17.

More particularly, the dimensional and range limitations of claims 15-17, as amended, cause the claimed invention to perform and operate differently from the mud flap of Fischer. For example, Fischer describes a mud flap having angled louvers which deflect substantially all of the air that flows through the openings in the mud flap. As a result, air does not flow through the mud flap of Fischer nearly unimpeded. Instead, the downwardly angled louvers impede substantially all of the air that flows through the openings of the mud flap of Fischer. By contrast, the claimed invention permits air to flow nearly unimpeded through it as a result of the openings representing at least 75% of the total surface area of the front face of the panel. In addition, the openings of the mud flap of Fischer are adapted to permit substantially all of the water and small debris encountered by the mud flap to flow through the openings of the mud flap and out of the rear side of the mud flap. By contrast, the openings of the claimed invention, which are limited in size by the dimensional limitation of amended claims 15-17 (*i.e.*, the minimum dimension of the openings being no more than 0.125 inches) are adapted to impede and "catch" water and debris in order to prevent substantially all water and debris encountered by the mud flap from flowing through the openings of the mud flap and out of the rear side of the mud flap.

Further, the dimensional and range limitations of the claimed invention cause it to achieve different results from the mud flap described by Fischer. More particularly, the dimensional

limitation of the amended claims (*i.e.*, the openings having a minimum dimension of no more than 0.125 inches) causes substantially all of the water and debris encountered by the mud flap to be impeded and collected on the surface of the mud flap and then to flow down the mud flap. By contrast, the mud flap of Fischer causes substantially all of the water and debris encountered by the mud flap to flow through the openings in the panel and be deflected downwardly by the louvers as the water and debris flows out of the rear side of the panel. As a result, substantially all of the water and debris encountered by the mud flap of Fischer flows completely through the mud flap, whereas substantially of the water and debris encountered by the mud flap of the claimed invention is not permitted to flow through the mud flap.

In addition, the range limitation of the claimed invention (*i.e.*, the openings representing at least 75% of the total surface area of the panel) causes it to achieve different results from the mud flap of Fischer. For example, as a result of the range limitation, the displacement of the mud flap of the claimed invention caused by air resistance is minimized. By contrast, the mud flap of

Fischer must be undesirably heavy in order to overcome significant displacement caused by air resistance during transport because the angled louvers of the mud flap of Fischer produce a significant amount of air resistance during transport and a corresponding undesirable displacement of the mud flap. Indeed, as shown in the drawings of Fischer, the angle louvers allow little or no air to pass through that mud flap unimpeded. Consequently, the mud flap of Fischer must be undesirably heavy in order to overcome the displacement caused by air resistance during transport. The undesirable weight of the mud flap of Fischer reduces fuel economy and payload capacity. Further, if the mud flap of Fischer is not made undesirably

heavy and it is instead permitted to be displaced by air resistance during transport, then its utility as a means for deflecting water and other roadway debris is undesirably reduced.

Still further, as a result of the dimensional limitation of the claimed invention (*i.e.*, the minimum dimension of each opening being no more than 0.125 inches), the mud flap of the claimed invention impedes and "catches" or prevents substantial amounts of water (including small drops of water) and other roadway debris from passing through the mud flap. By contrast, the mud flap of Fischer permits substantially all of the water and small roadway debris encountered by the mud flap to pass through the mud flap, even though much of the water and debris may be deflected downwardly by the angled louvers. Thus, the dimensional limitation of the mud flap of the pending application results in less water and small debris passing through the mud flap and potentially into the line of travel behind the vehicle on which the mud flap is being used than the mud flap of Fischer.

Accordingly, the dimensional and range limitations of amended claims 15-17 are not obvious in view of Nakayama and Fischer, and the rejections under 35 U.S.C. § 103(a) of claims 15-17, as amended, should be withdrawn.

V. CLAIM 7, AS AMENDED, IS NOT OBVIOUS IN VIEW OF NAKAYAMA AND HERMANSON.

According to the Office Action, claim 7 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakayama in view of Hermanson. More particularly, the Office Action correctly states that Nakayama does not disclose a mud flap having a plurality of interwoven strands. The Office Action continues stating that Hermanson discloses a process of making mud

flaps wherein the plurality of strands are interwoven. The Office Action further states that it would have been obvious to a person of ordinary skill in this art to interweave the strands together in Nakayama in view of the teaching of Hermanson. Finally, the Office Action states that the motivation for doing so would have been to give the panel greater strength by interweaving the strands together to prevent tearing of the mud flap panel.

For the same reasons discussed above in Section III. (which is incorporated herein by reference), Nakayama does not teach or suggest the dimensional or range limitations of claim 7, as amended. More particularly, Nakayama does not teach or suggest either (1) a plurality of openings having a minimum dimension of no more than 1/8 (0.125) inch, or (2) the sum of the areas of the plurality of openings representing at least 75% of the surface area of the front face of the panel. Similarly, Hermanson does not teach or suggest the dimensional or range limitations of amended claim 7.

More particularly, Hermanson does not include any written description of the performance or operation of the claimed sheet material when used in connection with a mud flap. Further, Hermanson does not include any written description of the results achieved by the claimed sheet material when used in connection with a mud flap. Instead, Hermanson describes a process for making a sheet material that may be used in connection with mud flaps. Hermanson, however, does not describe a process for making a mud flap, how such a mud flap performs or operates, or what results are achieved by such a mud flap.

Accordingly, the dimensional and range limitations of amended claim 7 are not obvious in view of Nakayama and Hermanson, and the rejection under 35 U.S.C. § 103(a) of claim 7, as amended, should be withdrawn.

VI. CONCLUSION

For all of the foregoing reasons, Applicant respectfully submits that the objections and rejections cited in the May 24, 2004 Office Action should be withdrawn, and claims 1-10 and 12-20, as amended, should be allowed.

Respectfully submitted,



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